BITUMINOUS MIXTURE QC/QA MSP-96-01V

1.0 Description. For all Superpave Asphaltic Concrete Pavement on this project, the contractor will be responsible for Quality Control (QC) of the bituminous mixture, including design and conducting sufficient tests in order to control the quality of the material incorporated into the project, while the engineer will be responsible for Quality Assurance (QA) including testing to assure the quality of the material incorporated into the project.

1.1 All materials, manufacture, control, placement, and measurement of the bituminous mixture(s) in this contract covered by QC/QA shall be as specified elsewhere in the contract, except as noted herein. All aggregates supplied for the Superpave Asphaltic Concrete Pavement covered by this QC/QA provision shall be produced under the Aggregate QC/QA provision elsewhere in this contract, including all fine and coarse fractions. Mineral filler is not included.

1.2 For this contract, the contractor shall furnish the bituminous mixture equipment to perform all of the required test methods for QC/QA work. This includes a gyratory compactor, ovens, binder ignition oven, scales, sieves, sieve shaker, aggregate sample splitter, Rice equipment, bulk specific gravity equipment, thermometers, molds, pans and other equipment necessary to equip the Special Field Laboratory specified elsewhere in this contract. The contractor shall also furnish all disposable items such as gloves, towels, etc. and a parts washer for the clean up of the equipment. MoDOT will have a nuclear asphalt content gauge available at the plant site for QA work.

1.3 Miscellaneous Applications.

1.3.1 Small Superpave Quantities. The following quantities apply to each individual project, including individual projects in combination contracts.

1.3.1.1 For each separate Superpave mixture of 2000 to 3000 tons (2000 to 3000 Mg), a lot shall contain no less than 4 sublots.

1.3.1.2 For each separate Superpave mixture of less than 2000 tons (2000 Mg), the following shall apply.

(a) No direct payment will be made for a special field laboratory for monitoring Superpave mixtures. However, all required QC and QA testing shall be performed in an approved laboratory.
(b) QC tests required in section 3.3 of this provision shall be performed at a frequency of not less than one per day if production does not exceed 750 tons (750 Mg) and at a frequency of not less than two per day if production exceeds 750 tons (750 Mg). QA tests shall be once per day as indicated.
(c) Quality Level Analysis (QLA) and Percent-Within-Limits (PWL) will not be required.
(d) Mixtures shall be within the specified limits for VMA, air voids, asphalt content and density. In addition to any adjustments in pay due to profile, the contract unit price for the Superpave mixture represented by each set of cores will be adjusted based on actual field density above or below the specified density using the following schedule.

Field Density **Percent of laboratory maximum theoretical density**	**Pay Factor** **Percent of contract unit price**

For all SP mixtures other than SP125xySM:			
		91.5 to 96.5 inclusive	100%
96.6 to 97.0	or	90.9 to 91.4 inclusive	97%
97.1 to 97.4	or	90.5 to 90.8 inclusive	94%
97.5 to 97.7	or	90.2 to 90.4 inclusive	90%
97.8 to 97.9	or	90.0 to 90.1 inclusive	80%
98.0 and above	or	89.9 and below	0%
For SP125xySM mixtures:			
		93.5 to 97.5 inclusive	100%
97.6 to 98.0	or	93.0 to 93.4 inclusive	90%
		92.5 to 92.9 inclusive	75%
		92.0 to 92.4 inclusive	55%
Above 98.0	or	91.9 or below	0%

1.3.1.3 For each separate Superpave mixture of 500 tons (500 Mg) or less, the following shall apply.

(a) QC testing will not be required, however the engineer reserves the right to test the mixture at any time for mixture properties and compliance with the job mix formula.

(b) For mixture placed on the travel way, adjustments will be made to the contract unit price for actual field density, in accordance with Section 1.4.1.2(d).

(c) For mixture not placed on the travel way, in lieu of roller and density requirements, the mixture may be thoroughly compacted by at least three complete coverages over the entire area, with a tandem-type steel wheel roller weighing not less than 10 tons (10 Mg). The rolling shall be performed at proper time intervals and shall be continued until there is no visible evidence of further consolidation.

1.3.2 Thin Shoulder, Base Widening and Entrances. For shoulders less than 5 3/4" (145 mm) of total new thickness, base widening SP250xy mixture and entrance work, the following shall apply:

(a) Quality Level Analysis and PWL will not be required. Payment for these mixtures will be made at 100% of contract unit price for material that otherwise meets the specifications.

(b) All base widening shall be constructed in accordance with Sec 301.9.3 and subsections. A trench roller shall be used on depressed areas inaccessible to regular width equipment.

(c) The minimum density of these mixtures shall be attained as specified herein, however compaction may be done in accordance with Sec 403.18.4.

1.3.3 Single Lift or Leveling Course Work. For resurfacing projects specifying a single lift Superpave surface mixture of 2000 T (2000 Mg) or more,or for leveling course work, the following shall apply to the travel way mixture. All bituminous mixture QC/QA requirements will apply, except the density pay factor designated in Section 8.1 will not be directly included in the total pay factor. In lieu of that, density shall be determined in accordance with Section 3.3. Contractor density test results will be used, provided the QLA is satisfactory. Density pay adjustment for less than specified density will be made using the pay factors listed in Section 1.4.1.2(d) and multiplied times the contract unit price for Superpave mixture.

2.0 Job Mix Formula. At least 30 days prior to placing any mixture on the project, the contractor shall submit a mix design for approval to the State Materials Engineer. The mix shall

be designed in accordance with AASHTO PP28 and shall meet the requirements for Superpave Asphaltic Concrete Pavement as specified elsewhere in this contract. A detailed description of the mix design process shall be included with the job mix formula. Representative samples of each ingredient for the mix shall be submitted with the mix design. The amount of each ingredient submitted shall be as follows for each mix design to be verified:

Ingredient	Minimum Amount
Coarse Aggregate	600 Pounds (270 Kg)
Fine Aggregate	400 Pounds (180 Kg)
Hydrated Lime, Mineral Filler and/or Baghouse Fines (Baghouse Fines are for drum plants only)	20 Pounds (9 Kg)
Asphalt Binder	10 Gallons (38 L)

2.1 The mix design shall contain the following information:

(a) Source, grade and specific gravity of asphalt binder.

(b) Source, type (formation, etc.), ledge number if applicable, and gradation of the aggregates.

(c) Bulk and apparent specific gravities and the absorption of each aggregate fraction in accordance with AASHTO T85 for coarse aggregates and AASHTO T84 for fine aggregates.

(d) Specific gravity of hydrated lime or mineral filler, if used, in accordance with AASHTO T100.

(e) Percentage of each aggregate component.

(f) Combined gradation of the job mixture.

(g) Percent asphalt binder, by weight, based on the total mix.

(h) Bulk specific gravity (G_{mb}) by AASHTO T166 Method A of a laboratory compacted mixture compacted to N_{des} gyrations.

(i) Percent air voids (V_a) of the laboratory compacted specimen compacted to N_{des} gyrations.

(j) Voids in the mineral aggregate and voids in the mineral aggregate filled with asphalt binder at N_{des} gyrations (VMA, VFA).

(k) Theoretical maximum specific gravity (G_{mm}) as determined by AASHTO T209 after the sample has been short term aged in accordance with AASHTO TP4.

(l) The tensile strength ratio as determined by AASHTO T283 including all raw data.

(m) The gyratory sample weight to produce a 115 mm minimum height specimen.

(n) Mixing temperature and gyratory molding temperature.

(o) Number of gyrations at N_{int}, $N_{des.}$, and N_{max}.

(p) Dust proportion ratio ($-200/P_{be}$).

(q) Bulk specific gravity (G_{sb}) of the combined aggregate.

(r) Percent chert contained in each aggregate fraction.

(s) Percent of Gmm at $N_{initial}$ and $N_{maximum}$.

(t) Blended aggregate properties for clay content, angularity and thin and elongated particles.

3.0 General.

3.1 Acceptance and Payment for Material. Acceptance of bituminous mixture will be based on lots. Material will be sampled from the roadway behind the paver in lots or sublots on a random basis through the use of a random number system and evaluated using a Quality Level Analysis (QLA). A QLA will determine payment based on a combination of the Percent Within Limits, total, (PWL_t) determined for each pay factor item for each lot of material produced.

3.1.1 Random numbers will be generated by the engineer.

3.2 Lots. Each lot of material will be 3000 tons (3000 Mg) of mixture, except that the last lot of material shall be greater than 3000 tons (3000 Mg). Each lot shall contain not less than four sublots. A lot may be defined as a day's production provided at least four sets of randomly selected tests for statistical analysis are obtained with a maximum sublot size of 1,000 tons (1000 Mg). If less than four sets are obtained, test results from the previous day, selected in reverse numerical order, will be used for statistical purposes to complete the set of 4. The contractor will select the lot designation in the QC plan.

3.2.1 A lot is terminated and a new lot begun whenever a significant change in the production process occurs or the target value of any pay factor item changes.

3.2.2 Test strips will not be considered part of any lot.

3.3 Test and Pay Factor Items. As a minimum, the contractor and engineer shall test in accordance with the following table. Final payment will be based on the indicated pay factor items.

Tested Property	Pay Factor	Test Method	Contractor Frequency	Engineer Frequency
Mix temperature	No	----	1/Sublot	1/day
Temperature of base and air	No	----	As needed	As needed
Mat Density (% of theoretical maximum density) by contractor	Yes	MoDOT T41 or AASHTO T 166	As needed 1 sample**/sublot	1 Sample/lot
Cold feed or hot bin gradation	No	AASHTO T27 and AASHTO T11	2/Lot	1/day
Asphalt content	Yes	AASHTO T164, or MoDOT T54, or AASHTO T287, or AASHTO T 308	1/Sublot	1/day
Voids in the min. aggregate (VMA) @ N_{des} gyrations	Yes*	AASHTO TP4 and PP19	1/Sublot	1/day
Air voids @ N_{des} gyrations	Yes*	AASHTO TP4 and PP19	1/Sublot	1/day
Voids Filled (VFA) @ N_{des} gyrations	No*	AASHTO TP4 and PP19	1/Sublot	1/day
Theo. max SG of the mixture	No	AASHTO T209	1/Sublot	1/day

* Based on the average of a minimum of 2 compacted specimens.
** Core samples shall consist of 1 to 3 cores (at the contractor's option) obtained within 1 foot of the randomly selected location. If more than 1 core is obtained, all cores shall be combined into one sample.

3.4 Percent Within Limits (PWL). PWL is based on the mean, standard deviation and quality index of each lot's test results.

The mean is: $x_a = (\Sigma x_i)/n$

Where: x_a = Average of the individual values being considered
Σx_i = The summation of all the individual values being considered
n = The number of individual values under consideration

The Standard Deviation is: $s = (\Sigma(x_i - x_a)^2/(n - 1))^{1/2}$
The Upper Quality Index is: $Q_u = (USL - x_a)/s$
The Lower Quality Index is: $Q_L = (x_a - LSL)/s$

Where:
Qu = Upper Quality Index
QL = Lower Quality Index
USL = Pay Factor Item Upper Spec Limit
LSL = Pay Factor Item Lower Spec Limit

The upper and lower PWL (PWL_u and PWL_L), is determined from the table at the end of this specification. Total percent within limits, PWL_t, is: $PWL_t = (PWL_u + PWL_L) - 100$.

4.0 Quality Control (QC).

4.1 QC Plan. Prior to approval of the trial mix design by the engineer, the contractor shall submit a QC Plan to the State Materials Engineer for approval. The QC Plan shall include list of personnel with corresponding authority and responsibility. The QC Plan shall describe how the contractor proposes to control production in order to assure all material incorporated into the project meets the applicable specification requirements. The QC Plan shall include a plant calibration description. The QC Plan shall include the specific tests to be performed during production, frequency of these tests, the point where samples will be obtained, and the format for recording test data and submitting it to the engineer. The QC Plan shall include a detail description of the mix design process. The QC Plan shall include a plan for resolving conflicts. The QC Plan shall list a proposed independent third party name, address, and phone number and an approved third party laboratory for dispute resolution.

4.1.1 The third party shall be independent of the contractor and all project subcontractors or suppliers.

4.1.2 All testing of materials for dispute resolution shall be performed by an approved laboratory. The Missouri Department of Transportation's Central Laboratory is AASHTO Accreditation Program (AAP) certified in the areas of Asphalt Cements, Bituminous Concrete, and Bituminous Concrete Aggregates and is an approved laboratory. Other approved laboratories shall be independent of the contractor and all project subcontractors or suppliers, be AAP certified in the areas of the material being tested, and have the equipment and qualified personnel to perform any required provisional test methods. A list of approved laboratories will be maintained by the Materials Division for those laboratories submitting proof of accreditation

for the above stated areas.

4.2 QC Operations. The contractor shall maintain equipment and qualified personnel to perform all QC field inspection, sampling and testing as required by this specification. All contractor qualified personnel shall be qualified by MoDOT required training for Bituminous QC/QA and Aggregate QC/QA. At least three QC inspectors shall complete the training. Others may need to be trained in order to sufficiently cover the testing required. Under no circumstances will unqualified personnel be allowed to perform QC testing. Personnel qualified by MoDOT will retain a qualified status for a period not to exceed 3 years. Personnel will be disqualified if acceptable methods and procedures are not followed.

4.2.1 The plant calibration shall be performed by the contractor in the presence of the engineer.

4.2.2 The contractor shall record all test results and furnish a copy, including all raw data, to the engineer not later than the beginning of the next day following the test. The contractor shall maintain all test results in a bound booklet format that shall be available to the QA inspector at all times.

4.2.3 All samples taken by the contractor and required to be retained for the engineer shall be maintained in clean covered containers, without contamination, readily accessible to the engineer, and identified by job mix number, sampler, location of sample, and time and date the sample was obtained. All of the hot mix asphalt loose mix samples for the determination of the volumetrics and asphalt binder content shall be retrieved from behind the paver by random sampling. Retained samples shall be stored for a minimum of 7 calendar days.

4.2.4 For each hot bin or cold feed gradation sample taken, the contractor shall retain for the engineer, the portion of the sample not tested after reducing the original sample to testing size.

4.2.5 At the request of the engineer, when a QC sample for determination of maximum specific gravity, asphalt binder content, air voids and VMA of the mixture is taken, a companion sample shall be taken, identified, and retained for the engineer for QA testing. The retained sample's identification shall consist of, but is not limited to:

(a) Time and date sampled.
(b) Product specification number.
(c) Type of sample, i.e. belt, bin, stockpile.
(d) Test Results.
(e) Sampler/Tester

4.3 QC Laboratory. All QC testing shall be performed in an approved Field Laboratory meeting the requirements of this specification and the current version of MSP-95-06.

4.3.1 The contractor shall calibrate or verify all significant test equipment associated with tests covered in this specification. Intervals as set by contractor shall not exceed the limits set as follows:

Equipment - Test Method (AASHTO)	Requirement	Interval (Month)
Gyratory Compactor - TP4	Calibrate	12*
Gyratory Compactor - TP4	Verify	Daily
Gyratory Molds - TP4	Check Critical Dimensions	12
Thermometers T209,T166,TP4	Calibrate	6
Vacuum System - T 209	Check Pressure	12
Pychnometer (Flask) - T 209	Calibrate	Daily

Binder Ignition Oven - TP53	Verify	12*
Mechanical Shakers - T 27	Check Sieving Thoroughness	12
Sieves	Check Physical Condition	6
Ovens	Verify Temp. Settings	4
Balances	Verify	12*
Timers	Check Accuracy	6

* Calibrate and/or verify after each move.

4.3.1.1 An inventory of all major sampling, testing, calibration and verification equipment including the serial number or other identifying number shall be maintained.

4.3.1.2 Calibration and verification records shall include but are not limited to:

(a) Detailed results of the work performed (dimensions, mass, force, temperature, etc.)

(b) Description of the equipment calibrated including identifying number

(c) Date the work was performed

(d) Identification of the individual performing the work

(e) Identification of the calibration or verification procedure used

(f) The previous calibration or verification date and next due date

(g) Identification of any in-house calibration or verification device used (including identification to establish trace ability of items such as standard masses, proving rings, standard thermometers, balances, etc.)

4.3.2 Proficiency samples will be required for approval of QC laboratories. Any laboratory meeting the requirements of Section 4.1.2 will be exempt from this requirement.

4.3.3 Test records shall be maintained to permit verification of any test report.

4.3.4 Records pertaining to testing, equipment calibration and verification, test reports, internal quality systems review, proficiency sample testing, test technician training and evaluation and personnel shall be retained in a secure location for a minimum of 3 years.

4.3.5 A current copy of all test methods and procedures shall be maintained in the QC laboratory at all times for reference by the technicians.

4.3.6 Examples of report formats and procedures may be found in AASHTO R 18.

5.0 Quality Assurance (QA). All QA field inspection, sampling and testing will be performed by a qualified MoDOT technician. The QA Inspector shall have free access to any and all testing equipment used by the mixture producer and any workbooks, records or control charts maintained by the mixture producer for the QC process. The QA inspector shall also have sufficient access to the plant grounds inorder to assure compliance with the approved QC Plan.

5.1 The engineer will independently sample and test the mixture from the roadway at the frequency listed in the preceding table. The engineer's test results, including all raw data, will be made available to the contractor upon completion of the test.

5.2 Performance and acceptance of QC/QA testing for this contract does not eliminate any

requirements that may be necessary as FHWA requirements for acceptance of the materials.

6.0 Pay Factor Item Specification Limits.

6.1 The specification limits for the pay factor items are as follows:

6.1.1 Density. 94.0 ± 2.0 percent of the theoretical maximum specific gravity determined for each lot of material for all mixtures except SP125xySM. SP125xySM mixtures shall have a density of 95.0 ± 1.0 percent of the theoretical maximum specific gravity determined for each lot of material. The cores shall be taken not later than the next day following placement of the mixture. The engineer will randomly determine the core locations.

6.1.1.1 Density tests on shoulders and at longitudinal joints shall be performed separately and any pay adjustments resulting from these tests will be applied independent of and in addition to any adjustments made to mix on the travel way.

6.1.1.2 When shoulders are placed integrally with the travel way, then cores shall be taken from the travel way.

6.1.1.3 Density along longitudinal joints shall be in accordance with Section 403.19.1

6.1.2 Asphalt Content (AC). Within ± 0.3 percent of the approved mix design.

6.1.3 Voids in the Mineral Aggregate (VMA). Within ± 1.2 percent of the approved mix design at N_{des} gyrations.

6.1.4 Air Voids (V_a). Within ± 1.0 percent of the approved mix design at N_{des} gyrations.

7.0 Quality Level Analysis (QLA). The engineer will make the QLA not more than 24 hours after receipt of the contractor's test results, by determining the PWL for each designated pay factor item.

7.1 The contractor's test results will be used when applicable to determine the PWL, provided the contractor's QC tests and the engineer's QA tests compare favorably, and provided the engineer's inspection and monitoring activities indicate the contractor is following the approved QC Plan.

7.1.1 Favorable comparison is obtained when the engineer's QA test results on a production sample are within two standard deviations, or one-half the specification tolerance, from the mean of the contractor's test results for that particular lot.

7.2 For the purpose of QLA, mix placed on the travel way shall be accounted for in a regular lot/sublot routine. All mix placed on shoulders shall be accounted for in a shoulder lot/sublot routine.

7.3 For the purpose of QLA, mix placed within 6 inches (150 mm) of a longitudinal joint shall not be subject to evaluation.

8.0 Pay Factors. The total pay factor (PF_T) for each lot is equal to the weighted sum of the pay factors (PF) for each pay factor item for each lot, and is determined as follows:

$$PF_T = + (0.25)\ PF_{density} + (0.25)\ PF_{AC} + (0.25)\ PF_{VMA} + (0.25)\ PF_{Va}$$

The total pay factor (PF_T) for each lot, on the shoulder or otherwise when the density pay factor is not directly included, is equal to the weighted sum of the pay factors (PF) for each pay factor item for each lot, and is determined as follows:

$$PF_T = + (0.3333)\ PF_{AC} + (0.3333)\ PF_{VMA} + (0.3333)\ PF_{Va}$$

The PF for each pay factor item for each lot is based on the PWL_T of each pay factor item of each lot and is determined as follows:

When PWL_T is greater than or equal to 70: $PF = 0.5\ PWL_T + 55$
When PWL_T is less than 70: $PF = 2\ PWL_T - 50$

8.1 Density Pay Factor. The theoretical maximum specific gravity of the mixture, as determined for each sublot and the bulk specific gravity of not less than one core from each sublot , shall be used to perform the QLA for the percent of theoretical maximum density

8.2 Asphalt Content Pay Factor. The QLA shall be performed using the asphalt content test results from each lot.

8.3 Voids in the Mineral Aggregate and Air Voids Pay Factor. Two gyratory specimens will be compacted for each sublot and the average of the two specimens will be used to calculate the volumetrics of the sublot. The VMA, VFA, and air voids shall be determined from the gyratory compacted specimens. The VMA and air voids for the QLA shall be those calculated using the combined bulk specific gravity of the aggregates as listed on the approved job mix formula, the average bulk specific gravity of the gyratory compacted specimens and the theoretical maximum specific gravity of the mixture determined for the sublot of material. The aggregate content used for the calculation shall be that determined from field asphalt content testing for that sublot.

8.4 Removal of Material. All lots of material with a PF_T less than 50.0 shall be removed and replaced with acceptable material by the contractor. Any sublot of material with a percent of theoretical maximum density of less than 90.0 percent or greater than 97.0 percent will be removed and replaced with acceptable material by the contractor. Any material that does not comply with the volumetric requirements of section 10.0, Field Adjustments of Job Mix Formulas, will be removed and replaced with acceptable material by the contractor. No additional money will be allowed for such removal and replacement. The replaced sublot material will be tested in accordance with section 3.3 and the pay for the sublot will be determined in accordance to section 3.4.

9.0 Dispute Resolution. When there are significant discrepancies between the engineer's and the contractor's test results, dispute resolution procedures will be used.

9.1 The contractor's operations may be required to cease until the dispute is resolved if the test results indicate the mixture is subject to failure.

9.2 The first step in dispute resolution is to look for differences in procedures and correcting inappropriate procedures before moving to third party resolution. If that does not resolve the dispute, either the contractor or the engineer may request the approved QC Plan third party involvement. The recommendations of the approved third party shall be binding on both the engineer and contractor.

9.3 The contractor shall be responsible for the cost associated with the third party testing and resolution if the final result indicates the engineer's test results were correct. Likewise the department will be responsible for the cost associated with the third party testing and resolution when the final result indicates the contractor's results were correct.

9.4 The contractor shall not be entitled to any additional payment for costs incurred due to use of the dispute resolution procedures such as, but not limited to, those for delay, cessation of operations, costs to subcontractors, etc. However, the engineer may give consideration to adjustment of working days if warranted.

10.0 Field Adjustments of Job Mix Formulas.

10.1 When test results indicate the mixture produced does not meet the specification requirements the contractor may field adjust the job mix formula as noted herein. Field adjustments may consist of changing the percentages of the aggregate fractions as listed on the approved job mix formula by no greater than a total of 5.0 percent and changing the percent binder as listed on the approved job mix by 0.3 percent. Additional fractions of materials or new materials will not be permitted as field adjustments. The engineer shall be notified immediately when any change is made in the cold feed settings, the hot bin settings and/or the binder content. When the aggregate percentages are adjusted by more than a total of 5.0 percent and/or the binder content is adjusted more than 0.3 percent, a new mix design shall be established.

10.1.1 When a field adjustment is allowed, the contractor will be permitted to place not more than 750 tons (750 Mg) of mixture, once the adjustment is made, to establish new volumetric properties of the mixture and to verify the mixture meets the specification requirements of MSP-95-03. The field adjusted job mix formula combined gradation and combined aggregate bulk specific gravity (G_{sb}) shall be calculated accordingly to reflect any change in the percentages of the aggregate fractions. The maximum theoretical specific gravity of the mixture (G_{mm}), the bulk specific gravity of the compacted specimens at N_{des} (G_{mb}), the VMA, the percent filled (VFA), the dust proportioning ($-200/P_{be}$), and the percent asphalt binder targets will be established
by sampling the material from the roadway at 100 and 400 tons (100 and 400 Mg).

10.1.2 At each sampling interval a minimum of two specimens will be compacted to N_{design} gyrations. Also, at each interval of testing, the maximum theoretical specific gravity of the mix, percent asphalt binder of the mix and the cold feed gradations shall be determined. The volumetrics of the field adjusted mix shall be calculated from these test results. The high, low and average values of the volumetrics from the N_{design} gyratory compacted specimens will be used to establish the new volumetric targets of the mix.

10.1.3 The new volumetric targets of the mix shall be in compliance with all of the Superpave mix design requirements of MSP-95-03. Mixture not meeting the specification requirements shall be removed from the roadway at the contractors expense. After this procedure has established the field adjusted job mix formula targets, that comply with MSP-95-03 requirements, the contractor may continue paving operations using the field adjusted job mix formula.

10.1.4 If no adjustments are made to the aggregate percentages or asphalt binder percentages, then the average VMA results from the testing of the first full lot of material can be used as the job mix formula target. To keep records straight, the original job mix formula will be

labeled with a revision number consecutively numbered beginning with (R1) behind the last digit of the job mix formula number to signify that the job mix formula has been field adjusted.

10.1.5 Supporting data justifying the need and type of field adjustment shall be submitted to the engineer. The engineer will approve all field adjustments. The contractor must notify the engineer in writing of the adjustments made, new target values and any other information required for evaluation of the revised mix

10.1.6 The contractor shall submit the field adjusted job mix formula to the engineer in writing within 24 hours.

10.1.7 When a new mix design is required, at the option of the engineer, the contractor may be permitted to establish the new mix design in the field. The mix shall be designed in accordance with AASHTO PP28 and shall meet the Superpave mix design requirements of MSP-95-03. A representative sample of the mix shall be submitted with the new mix design to the Central Laboratory for mixture verification. The amount of mix submitted for verification shall weigh at least 50 pounds (24 Kg).

10.1.8 New mix designs established in the field will be approved by Materials Engineering. To keep records straight, the Materials Engineering will assign a new mix number to the mixture.

10.1.9 No mix is to be placed on the project until the new field mix design is approved.

11.0 PWL Determination Table.

VARIABILITY-UNKNOWN PROCEDURE STANDARD-DEVIATION METHOD								
QUALITY INDEX	**PERCENT WITHIN LIMITS FOR SELECTED SAMPLE SIZES**							
(Q_U or Q_L)	**n=3**	**n=4**	**n=5**	**n=6**	**n=7**	**n=8**	**n=9**	**n=10**
0.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00
0.01	50.28	50.33	50.36	50.37	50.37	50.38	50.38	50.38
0.02	50.55	50.67	50.71	50.74	50.75	50.76	50.76	50.77
0.03	50.83	51.00	51.07	51.10	51.12	51.13	51.15	51.15
0.04	51.10	51.34	51.42	51.47	51.50	51.51	51.53	51.54
0.05	51.38	51.67	51.78	51.84	51.87	51.89	51.91	51.92
0.06	51.66	52.00	52.14	52.21	52.24	52.27	52.29	52.30
0.07	51.93	52.33	52.49	52.57	52.62	52.65	52.67	52.69
0.08	52.21	52.67	52.85	52.94	52.99	53.02	53.06	53.07
0.09	52.48	53.00	53.20	53.30	53.37	53.40	53.44	53.46
0.10	52.76	53.33	53.56	53.67	53.74	53.78	53.82	53.84
0.11	53.04	53.66	53.91	54.04	54.11	54.16	54.20	54.22
0.12	53.32	54.00	54.27	54.40	54.48	54.54	54.58	54.60
0.13	53.59	54.33	54.62	54.77	54.86	54.91	54.95	54.99
0.14	53.87	54.67	54.98	55.13	55.23	55.29	55.33	55.37
0.15	54.15	55.00	55.33	55.50	55.60	55.67	55.71	55.75
0.16	54.43	55.33	55.68	55.86	55.97	56.04	56.09	56.13
0.17	54.71	55.67	56.04	56.23	56.34	56.42	56.47	56.51
0.18	54.98	56.00	56.39	56.59	56.72	56.79	56.84	56.89
0.19	55.26	56.34	56.75	56.96	57.09	57.17	57.22	57.27
0.20	55.54	56.67	57.10	57.32	57.46	57.54	57.60	57.65

0.21	55.82	57.00	57.45	57.68	57.83	57.91	57.98	58.03
0.22	56.10	57.33	57.81	58.05	58.20	58.29	58.35	58.40
0.23	56.39	57.67	58.16	58.41	58.56	58.66	58.73	58.78
0.24	56.67	58.00	58.52	58.78	58.93	59.04	59.10	59.15
0.25	56.95	58.33	58.87	59.14	59.30	59.41	59.48	59.53
0.26	57.23	58.66	59.22	59.50	59.67	59.78	59.85	59.90
0.27	57.52	59.00	59.57	59.86	60.03	60.15	60.22	60.28
0.28	57.80	59.33	59.93	60.22	60.40	60.51	60.60	60.65
0.29	58.09	59.67	60.28	60.58	60.76	60.88	60.97	61.03
0.30	58.37	60.00	60.63	60.94	61.13	61.25	61.34	61.40
0.31	58.66	60.33	60.98	61.30	61.49	61.62	61.71	61.77
0.32	58.94	60.67	61.33	61.66	61.85	61.98	62.08	62.14
0.33	59.23	61.00	61.68	62.01	62.22	62.35	62.44	62.51
0.34	59.51	61.34	62.03	62.37	62.58	62.71	62.81	62.88
0.35	59.80	61.67	62.38	62.73	62.94	63.08	63.18	63.25
0.36	60.09	62.00	62.73	63.09	63.30	63.44	63.54	63.61
0.37	60.38	62.33	63.08	63.44	63.66	63.80	63.91	63.98
0.38	60.68	62.67	63.42	63.80	64.02	64.17	64.27	64.34
0.39	60.97	63.00	63.77	64.15	64.38	64.53	64.64	64.71
0.40	61.26	63.33	64.12	64.51	64.74	64.89	65.00	65.07
0.41	61.56	63.66	64.46	64.86	65.09	65.25	65.36	65.43
0.42	61.85	64.00	64.81	65.21	65.45	65.60	65.72	65.79
0.43	62.15	64.33	65.15	65.57	65.80	65.96	66.07	66.15
0.44	62.44	64.67	65.50	65.92	66.16	66.31	66.43	66.51
0.45	62.74	65.00	65.84	66.27	66.51	66.67	66.79	66.87
0.46	63.04	65.33	66.18	66.62	66.86	67.02	67.14	67.22
0.47	63.34	65.67	66.53	66.96	67.21	67.37	67.49	67.57
0.48	63.65	66.00	66.87	67.31	67.56	67.73	67.85	67.93
0.49	63.95	66.34	67.22	67.65	67.91	68.08	68.20	68.28
0.50	64.25	66.67	67.56	68.00	68.26	68.43	68.55	68.63
0.51	64.56	67.00	67.90	68.34	68.61	68.78	68.90	68.98
0.52	64.87	67.33	68.24	68.69	68.95	69.12	69.24	69.32
0.53	65.18	67.67	68.58	69.03	69.30	69.47	69.59	69.67
0.54	65.49	68.00	68.92	69.38	69.64	69.81	69.93	70.01
0.55	65.80	68.33	69.26	69.72	69.99	70.16	70.28	70.36
0.56	66.12	68.66	69.60	70.06	70.33	70.50	70.62	70.70
0.57	66.44	69.00	69.94	70.40	70.67	70.84	70.96	71.04
0.58	66.75	69.33	70.27	70.73	71.00	71.17	71.29	71.38
0.59	67.07	69.67	70.61	71.07	71.34	71.51	71.63	71.72
0.60	67.39	70.00	70.95	71.41	71.68	71.85	71.97	72.06
0.61	67.72	70.33	71.28	71.74	72.01	72.11	72.30	72.39
0.62	68.05	70.67	71.61	72.08	72.34	72.37	72.63	72.72
0.63	68.37	71.00	71.95	72.41	72.68	72.63	72.97	73.06
0.64	68.70	71.34	72.28	72.75	73.01	72.89	73.30	73.39
0.65	69.03	71.67	72.61	73.08	73.34	73.15	73.63	73.72
0.66	69.37	72.00	72.94	73.41	73.67	73.55	73.95	74.04
0.67	69.71	72.33	73.27	73.73	73.99	73.95	74.28	74.36
0.68	70.05	72.67	73.60	74.06	74.32	74.35	74.60	74.69
0.69	70.39	73.00	73.93	74.38	74.64	74.75	74.93	75.01

0.70	70.73	73.33	74.26	74.71	74.97	75.15	75.25	75.33
0.71	71.08	73.66	74.59	75.03	75.29	75.46	75.57	75.64
0.72	71.44	74.00	74.91	75.35	75.61	75.78	75.88	75.96
0.73	71.79	74.33	75.24	75.68	75.92	76.09	76.20	76.27
0.74	72.15	74.67	75.56	76.00	76.24	76.41	76.51	76.59
0.75	72.50	75.00	75.89	76.32	76.56	76.72	76.83	76.90
0.76	72.87	75.33	76.21	76.63	76.87	77.03	77.14	77.21
0.77	73.24	75.67	76.53	76.95	77.18	77.34	77.44	77.51
0.78	73.62	76.00	76.85	77.26	77.50	77.64	77.75	77.82
0.79	73.99	76.34	77.17	77.58	77.81	77.95	78.05	78.12
0.80	74.36	76.67	77.49	77.89	78.12	78.26	78.36	78.43
0.81	74.75	77.00	77.81	78.20	78.42	78.56	78.66	78.72
0.82	75.15	77.33	78.12	78.51	78.72	78.86	78.95	79.02
0.83	75.54	77.67	78.44	78.81	79.03	79.16	79.25	79.31
0.84	75.94	78.00	78.75	79.12	79.33	79.46	79.54	79.61
0.85	76.33	78.33	79.07	79.43	79.63	79.76	79.84	79.90
0.86	76.75	78.66	79.38	79.73	79.92	80.05	80.13	80.19
0.87	77.18	79.00	79.69	80.03	80.22	80.34	80.42	80.47
0.88	77.60	79.33	80.00	80.33	80.51	80.63	80.70	80.76
0.89	78.03	79.67	80.31	80.63	80.81	80.92	80.99	81.04
0.90	78.45	80.00	80.62	80.93	81.10	81.21	81.28	81.33
0.91	78.91	80.33	80.92	81.22	81.38	81.49	81.56	81.61
0.92	79.37	80.67	81.23	81.51	81.67	81.77	81.84	81.88
0.93	79.83	81.00	81.53	81.81	81.95	82.05	82.11	82.16
0.94	80.29	81.34	81.84	82.10	82.24	82.33	82.39	82.43
0.95	80.75	81.67	82.14	82.39	82.52	82.61	82.67	82.71
0.96	81.27	82.00	82.44	82.67	82.80	82.88	82.94	82.97
0.97	81.78	82.33	82.74	82.95	83.07	83.15	83.20	83.24
0.98	82.30	82.67	83.04	83.24	83.35	83.42	83.47	83.50
0.99	82.81	83.00	83.34	83.52	83.62	83.69	83.73	83.77
1.00	83.33	83.33	83.64	83.80	83.90	83.96	84.00	84.03
1.01	83.93	83.66	83.93	84.08	84.17	84.22	84.26	84.28
1.02	84.53	84.00	84.22	84.35	84.43	84.48	84.51	84.53
1.03	85.14	84.33	84.51	84.63	84.70	84.74	84.77	84.79
1.04	85.74	84.67	84.80	84.90	84.96	85.00	85.02	85.04
1.05	86.34	85.00	85.09	85.18	85.23	85.26	85.28	85.29
1.06	87.10	85.33	85.38	85.44	85.49	85.51	85.53	85.53
1.07	87.87	85.67	85.66	85.71	85.74	85.76	85.77	85.77
1.08	88.63	86.00	85.95	85.97	86.00	86.01	86.02	86.02
1.09	89.40	86.34	86.23	86.24	86.25	86.26	86.26	86.26
1.10	90.16	86.67	86.52	86.50	86.51	86.51	86.51	86.50
1.11	91.55	87.00	86.80	86.76	86.75	86.75	86.74	86.73
1.12	92.95	87.33	87.07	87.01	87.00	86.99	86.98	86.96
1.13	94.34	87.67	87.35	87.27	87.24	87.22	87.21	87.20
1.14	95.74	88.00	87.62	87.52	87.49	87.46	87.45	87.43
1.15	97.13	88.33	87.90	87.78	87.73	87.70	87.68	87.66
1.16	100.00	88.66	88.17	88.03	87.96	87.93	87.90	87.88
1.17	100.00	89.00	88.44	88.27	88.20	88.15	88.12	88.10
1.18	100.00	89.33	88.70	88.52	88.43	88.38	88.35	88.32

1.19	100.00	89.67	88.97	88.76	88.67	88.60	88.57	88.54
1.20	100.00	90.00	89.24	89.01	88.90	88.83	88.79	88.76
1.21	100.00	90.33	89.50	89.25	89.12	89.05	89.00	88.97
1.22	100.00	90.67	89.76	89.48	89.35	89.26	89.21	89.17
1.23	100.00	91.00	90.02	89.72	89.57	89.48	89.43	89.38
1.24	100.00	91.34	90.28	89.95	89.80	89.69	89.64	89.58
1.25	100.00	91.67	90.54	90.19	90.02	89.91	89.85	89.79
1.26	100.00	92.00	90.79	90.41	90.23	90.12	90.05	89.99
1.27	100.00	92.33	91.04	90.64	90.44	90.32	90.25	90.19
1.28	100.00	92.67	91.29	90.86	90.65	90.53	90.44	90.38
1.29	100.00	93.00	91.54	91.09	90.86	90.73	90.64	90.58
1.30	100.00	93.33	91.79	91.31	91.07	90.94	90.84	90.78
1.31	100.00	93.66	92.03	91.52	91.27	91.13	91.03	90.96
1.32	100.00	94.00	92.27	91.73	91.47	91.32	91.22	91.15
1.33	100.00	94.33	92.50	91.95	91.68	91.52	91.40	91.33
1.34	100.00	94.67	92.74	92.16	91.88	91.71	91.59	91.52
1.35	100.00	95.00	92.98	92.37	92.08	91.90	91.78	91.70
1.36	100.00	95.33	93.21	92.57	92.27	92.08	91.96	91.87
1.37	100.00	95.67	93.44	92.77	92.46	92.26	92.14	92.04
1.38	100.00	96.00	93.66	92.97	92.64	92.45	92.31	92.22
1.39	100.00	96.34	93.89	93.17	92.83	92.63	92.49	92.39
1.40	100.00	96.67	94.12	93.37	93.02	92.81	92.67	92.56
1.41	100.00	97.00	94.33	93.56	93.20	92.98	92.83	92.72
1.42	100.00	97.33	94.55	93.75	93.37	93.15	93.00	92.88
1.43	100.00	97.67	94.76	93.94	93.55	93.31	93.16	93.05
1.44	100.00	98.00	94.98	94.13	93.72	93.48	93.33	93.21
1.45	100.00	98.33	95.19	94.32	93.90	93.65	93.49	93.37
1.46	100.00	98.66	95.39	94.49	94.06	93.81	93.64	93.52
1.47	100.00	99.00	95.59	94.67	94.23	93.97	93.80	93.67
1.48	100.00	99.33	95.80	94.84	94.39	94.12	93.95	93.83
1.49	100.00	99.67	96.00	95.02	94.56	94.28	94.11	93.98
1.50	100.00	100.00	96.20	95.19	94.72	94.44	94.26	94.13
1.51	100.00	100.00	96.39	95.35	94.87	94.59	94.40	94.27
1.52	100.00	100.00	96.57	95.51	95.02	94.73	94.54	94.41
1.53	100.00	100.00	96.76	95.68	95.18	94.88	94.69	94.54
1.54	100.00	100.00	96.94	95.84	95.33	95.02	94.83	94.68
1.55	100.00	100.00	97.13	96.00	95.48	95.17	94.97	94.82
1.56	100.00	100.00	97.30	96.15	95.62	95.30	95.10	94.95
1.57	100.00	100.00	97.47	96.30	95.76	95.44	95.23	95.08
1.58	100.00	100.00	97.63	96.45	95.89	95.57	95.36	95.20
1.59	100.00	100.00	97.80	96.60	96.03	95.71	95.49	95.33
1.60	100.00	100.00	97.97	96.75	96.17	95.84	95.62	95.46
1.61	100.00	100.00	98.12	96.88	96.30	95.96	95.74	95.58
1.62	100.00	100.00	98.27	97.02	96.43	96.08	95.86	95.70
1.63	100.00	100.00	98.42	97.15	96.55	96.21	95.98	95.81
1.64	100.00	100.00	98.57	97.29	96.68	96.33	96.10	95.93
1.65	100.00	100.00	98.72	97.42	96.81	96.45	96.22	96.05
1.66	100.00	100.00	98.84	97.54	96.92	96.56	96.33	96.16
1.67	100.00	100.00	98.97	97.66	97.04	96.67	96.44	96.27

1.68	100.00	100.00	99.09	97.78	97.15	96.79	96.54	96.37
1.69	100.00	100.00	99.22	97.90	97.27	96.90	96.65	96.48
1.70	100.00	100.00	99.34	98.02	97.38	97.01	96.76	96.59
1.71	100.00	100.00	99.43	98.13	97.48	97.11	96.86	96.69
1.72	100.00	100.00	99.53	98.23	97.58	97.21	96.96	96.78
1.73	100.00	100.00	99.62	98.34	97.69	97.31	97.05	96.88
1.74	100.00	100.00	99.72	98.44	97.79	97.41	97.15	96.97
1.75	100.00	100.00	99.81	98.55	97.89	97.51	97.25	97.07
1.76	100.00	100.00	99.86	98.64	97.98	97.60	97.34	97.16
1.77	100.00	100.00	99.91	98.73	98.07	97.69	97.43	97.25
1.78	100.00	100.00	99.95	98.81	98.17	97.78	97.52	97.33
1.79	100.00	100.00	100.00	98.90	98.26	97.87	97.61	97.42
1.80	100.00	100.00	100.00	98.99	98.35	97.96	97.70	97.51
1.81	100.00	100.00	100.00	99.06	98.43	98.04	97.78	97.59
1.82	100.00	100.00	100.00	99.14	98.51	98.12	97.86	97.67
1.83	100.00	100.00	100.00	99.21	98.58	98.19	97.93	97.75
1.84	100.00	100.00	100.00	99.29	98.66	98.27	98.01	97.83
1.85	100.00	100.00	100.00	99.36	98.74	98.35	98.09	97.91
1.86	100.00	100.00	100.00	99.42	98.81	98.42	98.16	97.98
1.87	100.00	100.00	100.00	99.48	98.87	98.49	98.23	98.05
1.88	100.00	100.00	100.00	99.53	98.94	98.55	98.30	98.11
1.89	100.00	100.00	100.00	99.59	99.00	98.62	98.37	98.18
1.90	100.00	100.00	100.00	99.65	99.07	98.69	98.44	98.25
1.91	100.00	100.00	100.00	99.69	99.13	98.75	98.50	98.31
1.92	100.00	100.00	100.00	99.73	99.18	98.81	98.56	98.37
1.93	100.00	100.00	100.00	99.77	99.24	98.87	98.62	98.44
1.94	100.00	100.00	100.00	99.81	99.29	98.93	98.68	98.50
1.95	100.00	100.00	100.00	99.85	99.35	98.99	98.74	98.56
1.96	100.00	100.00	100.00	99.87	99.39	99.04	98.79	98.61
1.97	100.00	100.00	100.00	99.90	99.44	99.09	98.84	98.67
1.98	100.00	100.00	100.00	99.92	99.48	99.14	98.90	98.72
1.99	100.00	100.00	100.00	99.95	99.53	99.19	98.95	98.78
2.00	100.00	100.00	100.00	99.97	99.57	99.24	99.00	98.83
2.01	100.00	100.00	100.00	99.98	99.60	99.28	99.05	98.88
2.02	100.00	100.00	100.00	99.98	99.64	99.32	99.09	98.92
2.03	100.00	100.00	100.00	99.99	99.67	99.37	99.14	98.97
2.04	100.00	100.00	100.00	99.99	99.71	99.41	99.18	99.01
2.05	100.00	100.00	100.00	100.00	99.74	99.45	99.23	99.06
2.06	100.00	100.00	100.00	100.00	99.76	99.48	99.27	99.10
2.07	100.00	100.00	100.00	100.00	99.79	99.51	99.30	99.14
2.08	100.00	100.00	100.00	100.00	99.81	99.55	99.34	99.18
2.09	100.00	100.00	100.00	100.00	99.84	99.58	99.37	99.22
2.10	100.00	100.00	100.00	100.00	99.86	99.61	99.41	99.26
2.11	100.00	100.00	100.00	100.00	99.88	99.64	99.44	99.29
2.12	100.00	100.00	100.00	100.00	99.89	99.66	99.47	99.32
2.13	100.00	100.00	100.00	100.00	99.91	99.69	99.51	99.36
2.14	100.00	100.00	100.00	100.00	99.92	99.71	99.54	99.39
2.15	100.00	100.00	100.00	100.00	99.94	99.74	99.57	99.42
2.16	100.00	100.00	100.00	100.00	99.95	99.76	99.59	99.45

2.17	100.00	100.00	100.00	100.00	99.96	99.78	99.62	99.48
2.18	100.00	100.00	100.00	100.00	99.97	99.80	99.64	99.50
2.19	100.00	100.00	100.00	100.00	99.98	99.82	99.67	99.53
2.20	100.00	100.00	100.00	100.00	99.99	99.84	99.69	99.56
2.21	100.00	100.00	100.00	100.00	99.99	99.85	99.71	99.58
2.22	100.00	100.00	100.00	100.00	99.99	99.87	99.73	99.61
2.23	100.00	100.00	100.00	100.00	100.00	99.88	99.75	99.63
2.24	100.00	100.00	100.00	100.00	100.00	99.90	99.77	99.66
2.25	100.00	100.00	100.00	100.00	100.00	99.91	99.79	99.68
2.26	100.00	100.00	100.00	100.00	100.00	99.92	99.80	99.70
2.27	100.00	100.00	100.00	100.00	100.00	99.93	99.82	99.72
2.28	100.00	100.00	100.00	100.00	100.00	99.94	99.83	99.73
2.29	100.00	100.00	100.00	100.00	100.00	99.95	99.85	99.75
2.30	100.00	100.00	100.00	100.00	100.00	99.96	99.86	99.77
2.31	100.00	100.00	100.00	100.00	100.00	99.96	99.87	99.78
2.32	100.00	100.00	100.00	100.00	100.00	99.97	99.88	99.80
2.33	100.00	100.00	100.00	100.00	100.00	99.97	99.90	99.81
2.34	100.00	100.00	100.00	100.00	100.00	99.98	99.91	99.83
2.35	100.00	100.00	100.00	100.00	100.00	99.98	99.92	99.84
2.36	100.00	100.00	100.00	100.00	100.00	99.98	99.93	99.85
2.37	100.00	100.00	100.00	100.00	100.00	99.99	99.93	99.86
2.38	100.00	100.00	100.00	100.00	100.00	99.99	99.94	99.87
2.39	100.00	100.00	100.00	100.00	100.00	100.00	99.94	99.88
2.40	100.00	100.00	100.00	100.00	100.00	100.00	99.95	99.89
2.41	100.00	100.00	100.00	100.00	100.00	100.00	99.96	99.90
2.42	100.00	100.00	100.00	100.00	100.00	100.00	99.96	99.91
2.43	100.00	100.00	100.00	100.00	100.00	100.00	99.97	99.91
2.44	100.00	100.00	100.00	100.00	100.00	100.00	99.97	99.92
2.45	100.00	100.00	100.00	100.00	100.00	100.00	99.98	99.93
2.46	100.00	100.00	100.00	100.00	100.00	100.00	99.98	99.94
2.47	100.00	100.00	100.00	100.00	100.00	100.00	99.98	99.94
2.48	100.00	100.00	100.00	100.00	100.00	100.00	99.99	99.95
2.49	100.00	100.00	100.00	100.00	100.00	100.00	99.99	99.95
2.50	100.00	100.00	100.00	100.00	100.00	100.00	99.99	99.96
2.51	100.00	100.00	100.00	100.00	100.00	100.00	99.99	99.96
2.52	100.00	100.00	100.00	100.00	100.00	100.00	99.99	99.97
2.53	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.97
2.54	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.98
2.55	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.98
2.56	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.98
2.57	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.98
2.58	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.99
2.59	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.99
2.60	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.99
2.61	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.99
2.62	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.99
2.63	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
2.64	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
2.65	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Numbers in the body of this table are estimates of percent within limits (PWL) corresponding to specific values of Q, the QUALITY INDEX. For Q values less than zero, subtract the table value from 100.